



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,968	12/31/2001	Rajendran S. Michael	24975A	2158
22889	7590	09/25/2003		
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			EXAMINER [REDACTED]	BOYD, JENNIFER A
			ART UNIT [REDACTED]	PAPER NUMBER 1771

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/038,968	MICHAEL ET AL.
	Examiner Jennifer A Boyd	Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 December 2001.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2 pages</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1 - 9, drawn to a structurally enhanced liner, classified in class 442, subclass 327.
 - II. Claims 10 - 14, drawn to a method of manufacturing a structurally enhanced liner, classified in class 156, subclass 242.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as injection molding the layers and then laminating.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Stephen Barnes on September 5, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1 – 9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10 – 14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1771

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Is the “first compacted area” of claim 7 the same as the “structural layer” of claim 1? Is the “second lofted area” the same as the “insulating area” of claim 1? For the purpose of examination, the Examiner will treat the “first compacted area” and “structural layer” as referring to the same element. Additionally, the Examiner will treat the “second lofted area” and “insulating area” as referring to the same element. Please use consistent terminology to avoid confusion.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. Claims 1 - 3, 5 – 7 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Tilton et al. (US 2003/0008581 A1).

Tilton et al. is directed to a multidensity liner/insulator.

As to claim 1, Tilton teaches a liner/insulator comprising a *pad* 12 of fibrous material having a lofty, acoustically *insulating portion* 14 and a relatively higher density *skin* 16 along the first face (page 3, [0034] and see Figure 4). The Examiner equates the insulating portion to Applicant's "insulating layer" and the *skin* 16 to Applicant's "structural layer". The insulating portion, or "insulation layer", provides the "lofted area for insulating against the transmission of sound" and the skin, or "structural layer", provides the "compacted area for structurally enhancing the liner".

As to claim 2, Tilton teaches that the liner/insulator further comprises a *first facing layer* 24 covering the *skin* 16 (page 3, [0040]). The Examiner equates the higher density *skin* 16 to Applicant's "first structural layer" and the *first facing layer* 24 to Applicant's "second structural layer".

As to claim 3, Tilton teaches that the *first facing layer*, or "second structural layer", can comprise glass mats, polymer mats and blended mats (page 4, [0042]). It should be noted that blended mats would imply a mat made of glass fibers and polymer fibers and that typically mats, or nonwoven materials, contain short length fibers, equated to Applicant's "chopped fibers".

As to claims 5 and 6, Tilton teaches that the *insulating portion* 14, or Applicant's "insulating layer", which is a part of the *pad* 12, comprises polyester, polyethylene,

polypropylene, polyethylene terephthalate, glass fibers, natural fibers and any mixtures thereof (page 4, [0044]) in the form of a lofty, insulating portion. It should be noted that the Examiner considers this portion to be classified as a non-woven material because, according to *Complete Textile Glossary*, by Celanese Acetate, a non-woven is defined as an assembly of textile fibers held together by mechanical interlocking in a random web or mat or by fusing of the fibers (in the case of thermoplastic fibers).

As to claim 7, Tilton teaches that the composite can further comprise a *second facing layer* 26 covers the *opposite face* 28 of the *pad* 12 (page 3, [0039] and see Figure 4). The Examiner equates the *second facing layer* 26 to Applicant's "first lofted area" and the Examiner equates the *insulating portion* 14 to the "second lofted area". The second facing layer 26, or "first lofted area", has a thickness of 0.25 – 7.5 mm for the metallic foil in the layer (page 3, [0040]) and the additional thickness created by the addition of a reinforcing non-woven material is not disclosed. It is reasonable to assume that the *second facing layer* 26, or "first lofted area", has a thickness greater than the range of 0.25 – 7.5 mm. The thickness of the "first lofted area" is equated to Applicant's "first thickness of a first dimension". The thickness of the *insulating portion* 14, or "second lofted area", is not directly disclosed. However, by examining Figure 4, one can see that the insulating portion is much thicker than any other layer in the composite. The thickness of the "second lofted area" is equated to Applicant's "second thickness of a second dimension". The *skin* 16, equated to Applicant's "first compacted area", has a thickness of 0.25 – 10.0 mm (page 3, [0034]). The thickness of the "first compacted area" is equated to Applicant's "third thickness of a third dimension". In summary, the *insulating portion* 14, or "second lofted area", is the thickest layer in the composite.

As to claim 9, Tilton teaches that the composite can be used to insulate an environment such as a passenger compartment of a vehicle from the heat and sound generated by the components of that vehicle during its operation (page 1, [0002]).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton et al. (US 2003/0008581 A1) in view of Val (US 3,822,764).

Tilton teaches that *first facing layer*, or “second structural layer”, can comprise glass mats, polymer mats and blended mats (page 4, [0042]). It should be noted that blended mats would imply a mat made of glass fibers and polymer fibers and that typically mats, or nonwoven materials, contain short length fibers, equated to Applicant’s “chopped fibers”.

Tilton fails to teach that the polymer used in the blended mats can be polyvinyl chloride.

Val is directed to structural elements exhibiting extraordinary soundproofing characteristics (Abstract). Val teaches that the intermediate layer may be formed of mineral or organic fibers, particularly glass fibers, expanded in a polyvinyl resin (column 5, lines 54 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyvinyl chloride as suggested by Val as the polymer in the non-woven glass

mat of Tilton motivated by the desire to create a layer with improved impact strength, stiffness and moldability.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton et al. (US 2003/0008581 A1).

Tilton discloses the claimed invention except for that the *second facing layer*, or “first lofted area” has a thickness equal to about 3 to 25 times the thickness of the *skin*, or “first compacted area”. It should be noted that the thickness is a result effective variable. For example, as thickness increases, the layer becomes more rigid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a composite with the second facing layer, or “first lofted area” having a thickness equal to about 3 to 25 times the thickness of the skin, or “first compacted area”, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the thickness of both the “first lofted area” and the “first compacted area” to create the “first lofted area” having a thickness of 3 to 25 times the thickness of the “first compacted area” to optimize the insulating and structural support strength of the composite.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer Boyd
Jennifer Boyd
September 17, 2003

Ma Ruddock